

# USE OF A CONTEST TO INCREASE INTEREST AND SHARE NEW IDEAS ON LOCAL ROADWAY MAINTENANCE

by

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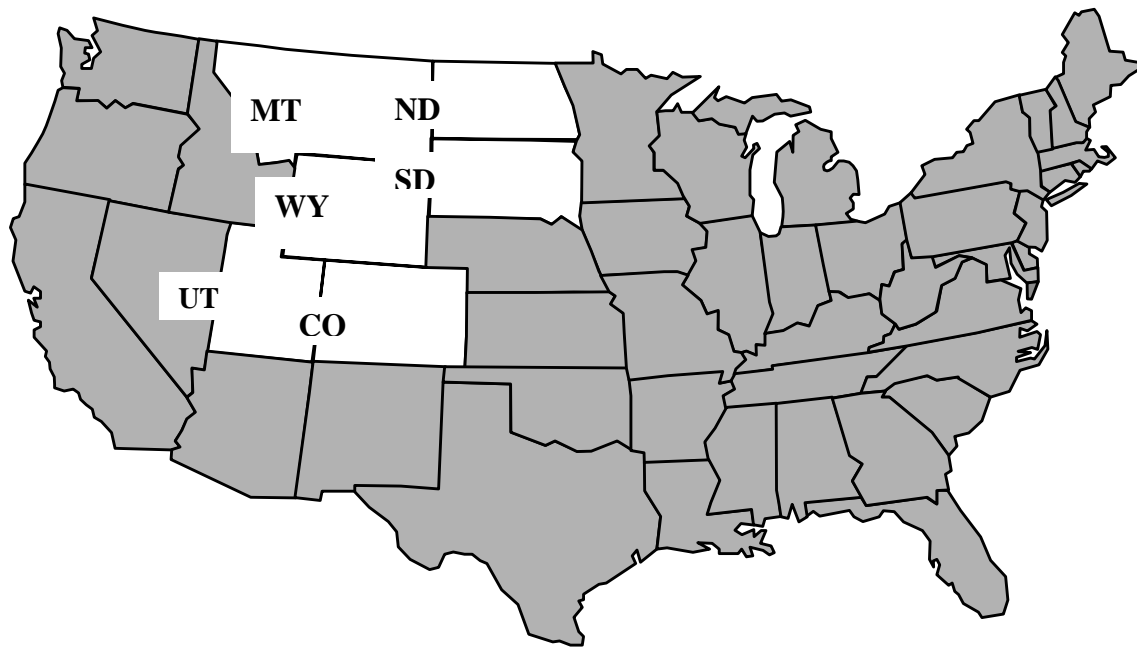
## **ABSTRACT**

*Personnel in local road departments are very innovative in their methods of maintaining roadways. This is due in part to limited budgets and few people. These limitations force innovation when people are motivated to do the best job they can with the resources available. Although some excellent innovative ideas are often developed at the local level, those ideas are many times not known by other roadway departments that could benefit.*

*This paper presents information on a program that is being used in the states of Colorado, Wyoming, North Dakota, South Dakota, Utah, and Montana to increase the interest in finding innovative methods of maintaining local roadways. The program is a contest between all local road agencies in those states. The contest is supported by the technology transfer centers in each of those states and the Federal Highway Administration. The contest is being used as a method to gather the best ideas from those states and share that information with other local road agencies. It also rewards those individuals that have developed innovative ideas to maintain their roadways in a more efficient and safe manner.*

## **1. USE OF A CONTEST TO INCREASE INTEREST AND SHARE NEW IDEAS**

In 1994, the Federal Highway Administration, United States Department of Transportation, initiated a roadway technology contest within six states in the western part of the United States of America. Those six states; Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming have state highway departments that manage the major highways. In each state there are cities and counties that manage the roads within their jurisdictional boundaries. Within the six states, there are 291 counties.



Most counties are faced with similar funding problems for their roads. There is not enough funding to maintain the roads to a desirable level of service. Over the years, the cost for improvements has increased but available funding has remained the same.

Because of funding constraints, counties sometimes make ends meet by implementing innovative and creative methods to maintain their roads. Resourceful employees develop ingenious ideas to get the job done using less time, or with fewer people or less money. Because many counties have very similar needs, the innovative techniques developed in one county will very often be useful to others. By sharing ideas, counties can learn from each other and ultimately save more resources.

The Federal Highway Administration initiated a contest in 1994 to encourage counties to submit their best ideas to a central location. Awards were given for the best ideas. All submitted ideas were published in a document that was copied and distributed to all counties in the six states. In addition, a web site was created where the entries were posted.

The first contest announcement, titled “You Show Us How”, was sent to the 291 counties in a six-state area (a sample of the announcement is attached). Reminders of the contest were included in existing newsletters that went to county public officials and roadway managers. An emphasis was put on the recognition that would be received by counties that submitted the best applications.

The contest has been slightly different each year. For example, specific subject areas were addressed some years, such as “Category I: Enhanced safety in daily roadway and/or roadside maintenance operations” and “Category II: Improved efficiency in roadway and/or roadside maintenance operations.” Other years, the subject areas were not limited.

When the applications were received, a panel of roadway specialists was assembled to review them. The panel evaluated the applications and judged them according to pre-established criteria. For example, for the two categories mentioned above, the evaluation criteria was established as:

Category I:

- Effect on roadway/roadside safety
- Incorporation into routine roadway/roadside maintenance activities

Category II:

- Effect on operational costs or time
- Incorporation into routine roadway/roadside maintenance activities

Winners were selected for each category. An annual conference held for roadway managers and workers of the counties of these six states was chosen as the best forum for the award presentations. At the awards presentation, every county that submitted an application was recognized and thanked for their efforts. The winners were then presented with nice plaques. Usually two plaques were presented for a winning county, one to the person responsible for the idea, and another one to hang in the main county office.

The award presentations were a very important part of the effort, but did not complete the objective, which was to share innovative ideas with all the counties. Therefore, every entry was copied and assembled in a document, called simply “You Show Us How – Contest Entrants.” The document was distributed to all participants at the conference. In addition, multiple copies were mailed to those counties requesting more. Posting all of the entries on a web site made the ideas even more accessible. This web site has been modified annually to include new entries each year.

Each state has an office called the Local Technical Assistance Program (LTAP) Center to provide roadway technical assistance to local governments. The LTAP Centers have newsletters mailed out to their counties on a regular basis. These newsletters were utilized to recognize the winning counties. The ideas submitted to the contest were also written up in the newsletters throughout the year to further promote the best ideas.

Recommended steps to initiate a “You Show Us How” process in your area:

1. Select the jurisdictions that could gain from sharing of information.
2. Develop and send out a contest announcement explaining the reason for holding the contest, categories, judging criteria, and entry details.
3. Use a credible panel to judge the entries.
4. Present the awards at a significant event. Make it a big deal!
5. Assemble all entries in a document for distribution.
6. Distribute the document (remember, the goal of this effort is to share information)
7. Make the information available in the future. This helps when turnover in positions is high.

The “You Show Us How” effort encouraged counties to document their innovative methods of conducting business and share of those methods with the other counties throughout the six-state area. Although the focus is sharing in the six states, other LTAP centers have included the descriptions of the entries from the web in their newsletters, so more than these six states have benefited.

## **2. TITLES OF ENTRIES FOR YOU SHOW US CONTESTS**

### **2.1 Motorized Equipment Modifications**

Dozer for Motor Grader  
Dozer for Motor Grader No. 2  
Electric Tarp Latch  
Guardrail Cleaning Device  
Hydraulic Sign Post Driver  
Quick Coupler Lock Pin System  
Vegetation Cutting Disc  
Moldboard Edger for Motor Graders  
Mounted Roller for Motor Graders  
Lube Bank for Motor Graders  
Backhoe Debris Removal Attachment  
Double-Paned Windshield System  
Truck Box Endgate Air Trip  
Air Cleaner Intake Modification for Motor Graders  
Cold Mix Tiller  
Anchor Post Cleaning Machine  
Motor Grader Fenders  
Self Contained Service Truck

### **2.2 Signs, Markings and Delineation**

Sign Carousel  
Barricade Trailer  
Flexible Bridge Marker  
Passing Zone Distances

### **2.3 Management Processes**

Revisions to Bridge Inspection Program  
Passing Zone Distances  
Operation Snowflake  
Restructuring  
Cost Accounting Handbook  
New Millennium Of Roads – Paving With Native Tar Sands

### **2.4 Safety Programs or Equipment Features for Safety**

Lube Bank for Motor Graders  
Double Paned Snow Plow Windshield System

Chip Sealing Equipment Modifications  
Reducing Mailboxes as Roadside Hazards  
Operation Snowflake  
Passing Zone Distances  
Truck Box Endgate Air Trip  
Boulder County Bikelane Initiative  
Air Driven Spike Extractor  
Bergen Parkway Roundabout

## **2.5 Maintenance of the Road and the Roadside**

Windrow Pulverizer  
Mounted Roller for Motor Graders  
Modified Chip Spreaders  
Utilization of Wood Chips  
Backhoe Debris-Removal Attachment  
Vegetation Cutting Disc  
Pull-Type Roller Packer  
Thin Overlay  
Guardrail Cleaning Device  
Hydraulic Sign Post Driver  
Snow Control  
Use of Reclaimed Asphalt  
Removal of Washboard  
Shoulder Maintenance  
Roadway Ditch Maintenance  
Mobile Gravel Laboratory  
Operation Rotomill  
Motor Grader Fenders  
Self Contained Service Truck  
Cold Mix Tiller

## **3. 1998 “YOU SHOW US THE BEST” CONTEST ANNOUNCEMENT**

The Federal Highway Administration (FHWA), Region 8 Resource Center, is pleased to announce its **“You Show Us The Best”** contest! For those of you who are not familiar with the “you show us” contests, this is the contest’s fifth year. The concept began in 1994 with the “You Show Us How” contest; the 1995 contest was titled, “You Show Us How II”. In 1996, it was called “You Show Us Some More”. In 1997, the event continued as “You Show Us What Works!”

In prior contests, we have focused on safety and operational efficiency improvements as well as other program enhancements. This year, **the sky’s the limit!**

We are aware that in many instances there are not enough transportation dollars available to maintain our transportation systems to the desired level of service. This is particularly true when it comes to local government transportation programs. The costs for repairs and

improvements are increasing while the available finances, at least the real value, are actually decreasing.

Solving these problems requires efficient use of existing funds, and the application of cost-reducing and innovative techniques. Today's problems are not easily solved with yesterday's solutions! We want to know what you are doing. What is the best idea you have implemented in your county within the last few years?

This is your opportunity to showcase some-thing that has worked and you are proud of! To share this information with your counter-parts across the nation, and even the world, all entries will be added to our "you show us" website. Refer to Internet address shown below.

Check the "You Show Us" Website: [www.fhwa.dot.gov/region8/ushowus/index.htm](http://www.fhwa.dot.gov/region8/ushowus/index.htm)

As before, the contest is open to all county governments in the states of Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming. Please limit your entries to a maximum of two per county.

Mail entries to: FHWA Contest, Attn: Greg Schertz (HES-08) 555 Zang Street, Room 400, Lakewood, CO 80228. All entries must be received by September 25, 1998, to be considered. Optional electronic submission can be made through our website.

Awards will be presented at the 1998 FHWA County Road Advisors' Conference to be held in Rapid City, SD, on October 21 and 22.

Entries should be no longer than two typewritten pages and must include the following, if applicable:

1. County Information
  - county name
  - contact person
  - address
2. Problem Statement
3. Discussion of Solution
4. Labor, Equipment, Materials Used
5. Cost
6. Savings/Benefits

(photographs are encouraged)

For additional information, please call Lloyd Rue, Bill Hakala, or Greg Schertz in the FHWA Resource Center at 303-969-5772, your County Road Advisor, Bob Meister, at 605-335-4316, or your Local Technical Assistance Program (LTAP) Center Coordinator.

We look forward to your entry!!

## Samples of Contest Entries

BARNES COUNTY HIGHWAY DEPARTMENT  
KERRY JOHNSON-ROAD SUPERINTENDENT  
P.O. BOX 306  
115 10TH AVE NW  
VALLEY CITY ND 58072

**PROBLEM:** In the spring while patching pot holes we were having numerous problems with the cold mix. It had a very lumpy texture and could not be spread evenly.

**SOLUTION:** For hand patching pot holes, the County uses two single axle trucks with do-al hopper boxes. The hopper boxes auger material out the back of the truck and on to the roadway. We constructed a tiller-type attachment to mount on the back of the truck to break up the cold mix into a workable material before it leaves the truck. The result is a smooth and useable product which can be easily raked into the potholes to produce a better quality job.

**MATERIAL:** All material used on this project was material the county had on hand. We drilled and tapped holes into a 4" x 24" pipe. We placed 4" long plow bolts in the tapped holes and locked the bolts in place with nuts to construct the tiller. The end of the pipe was welded shut with flat iron and shafts were installed so the unit could be mounted on the truck with pillow block type bearings. The tiller is driven by an orbit motor, chain and sprocket (that was salvaged off an old conveyer). We utilized the existing hydraulics for the spinner to power the orbit motor. The entire unit is easily attached and detached with two pins and quick couplers on hydraulic lines. Protective guards were installed using some old screening and conveyor belting.

**COSTS:** Total cost, including labor, was approximately \$478.00. The savings realized are in the improved quality of the patches and the ease of application which reduces labor and increases productivity.

Potter County Highway Department  
Brad W. Ware -- Superintendent  
600 N. East St.  
RR 1 Box 104  
Gettysburg, SD 57442

**Problem Statement:** Develop a cost effective method of moving material at various sites throughout the County without transporting or roading slow moving equipment such as dozers, loaders and backhoes.

**Solution:** Construct dozer blades, in our shop, to be mounted on the V-plow lifts on the front of our motor graders. This was accomplished by going to some farm auctions and buying used farm tractor type push blades. They come in various sizes, but we found that a 10' wide blade works best. These are set up with the same quick attach mounts that our V-plows have and are easy to put on and take off in a matter of minutes. This has literally turned our motor graders into small dozers. Some of the many applications are building new field approaches, pushing material into road washcuts, covering new culverts, stockpiling gravel, reclamation work and just about anything that a small dozer can do.

<u>Cost:</u> Labor 10 hours at \$11.33 per hour	\$113.30
Used tractor blade from farm auction	\$400.00
Balderson V-plow quick attach J hooks	\$300.00
Miscellaneous welding supplies and metals	<u>\$100.00</u>
Total	\$913.30

**Savings / Benefits:** It is hard to put a dollar amount on the cost savings. Now instead of hauling or moving an additional piece of equipment to a job site, the motor grader takes care of the project by itself. It has saved us valuable time and manpower. We have 2 dozer blades in use now and plan to build 3 more for the rest of our motor graders.